



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/555,714

07/27/2006

Jorg Kowalczyk

P/2107-285

9742

2352 7590 04/06/2010  
OSTROLENK FABER GERB & SOFFEN  
1180 AVENUE OF THE AMERICAS  
NEW YORK, NY 100368403

EXAMINER

BLAND, LAYLA D

ART UNIT

PAPER NUMBER

1623

MAIL DATE

DELIVERY MODE

04/06/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

***Advisory Action***

This office action is in response to Applicant's proposed amendment and response after FINAL filed on March 10, 2010.

Applicant's remarks/arguments filed March 10, 2010 after FINAL have been fully considered but are not found to be persuasive.

Applicant argues that the prior art teaches away from the use of metal oxide catalysts. This argument was addressed in the office action mailed January 4, 2010. MPEP 2123 states: "A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including nonpreferred embodiments," and "Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments." Thus, although the references cited by Applicant disclose the benefits of carbon supports, this is not a teaching away from other supports. The art of record clearly suggests the use of noble metal/metal oxide supports and teach the benefits of gold over other noble metals such as platinum or palladium (Fuertes, Biella).

Applicant argues that the claimed catalysts are more durable than the Au/C catalyst used in the prior art. Applicant refers to Figure 3c of Biella, which shows that the Au/C catalyst is less efficient with subsequent runs. Applicant refers to Example 3 in the instant specification, which shows that the initial activity of the gold/metal oxide catalyst is similar at least over the first 15 batches. First, with respect to Biella's table 3c, the reaction times given cannot be compared with Applicant's Example 3 because Applicant's example does not list reaction times. With respect to the initial activity, this

Art Unit: 1623

data is also difficult to compare because Biella's data is given in percent conversion over time, not  $\text{mmol}_{\text{glucose}}/(\text{g}_{\text{metal}} \cdot \text{min})$ . Furthermore, Biella illustrates only the first few runs, and it appears that the difference in activity is less with each run. Thus, the data for Biella's reaction conditions over multiple runs might show a leveling off of catalyst activity. It is difficult to evaluate the significance of Applicant's result because the prior art data is only given for the first four runs.

Furthermore, as set forth in the previous office action, Applicant's results are not commensurate in scope with the claims. Applicant's Example 3 is done at 40°C, at pH 9, and is an oxidation of glucose at a concentration of 250 mmol/l. The importance of pH in oxidations on metal oxide support is known in the art, as previously discussed. Applicant's Table 4 shows that increasing the temperature beyond 40°C drastically affects the initial activity of the catalyst. Applicant's Table 5 shows that glucose concentration also significantly affects the % conversion and the initial activity. Applicant's Examples 4 and 5 illustrate that oxidation of two different disaccharides, lactose and maltose, proceeds quite differently using the same catalysts. Oxidation of lactose is less efficient than oxidation of maltose, using the same three catalysts. Thus, it is unclear if Applicant's results in Example 3, drawn to oxidation of glucose, could be extrapolated to the oxidation of other carbohydrates.

For these reasons, the rejection is maintained.

Art Unit: 1623

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAYLA BLAND whose telephone number is (571)272-9572. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anna Jiang can be reached on (571) 272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Layla Bland/  
Examiner, Art Unit 1623

/Shaojia Anna Jiang/  
Supervisory Patent Examiner  
Art Unit 1623